

Hiroki WATANABE

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A computer science researcher with research interests in network architecture, protocol signaling, protocol stack, and distributed system on them such as MEC, IoT, and Fog Computing. Experience in developing a session layer protocol in userland providing applications with rich communication paths (multipath, DTN, middlemox, and etc.) in C language and in developing a set of middleware for distributed edge cloud computing in C language and Go.

EDUCATION

APR. 2018 – *Current* Ph.D student in ENGINEERING, **Keio University**, Japan

MAR. 2018 M.E. degree in ENGINEERING
from **Keio University**, Japan (GPA: 3.67/4)
Thesis: “**Design and Implementation of A Communication Mechanism
for Application-level Service Chaining**” | Advisor: Fumio TERAOKA

MAR. 2016 B.E. degree in INFORMATION AND COMPUTER SCIENCE
from **Keio University**, Japan (GPA: 3.81/4)
Thesis: “**A Prototype Implementation of A Session Layer on New
Generation Network Architecture: ZNA**” | Advisor: Fumio TERAOKA

EMPLOYMENT

APR. 2019 – *Current* Researcher (part-time) at Grad. School of Science and Technology, Keio University
Committing to fundamental technologies on Beyond-5G

MAR. 2017 – *Mar. 2019* Research Assistant at IJ Innovation Institute
Developing Software around LKL and MPTCP

AUG. 2016 – SEP. 2016 Internship at Yahoo! Japan
Developing Cassandra at Data Platform Department

LANGUAGES

JAPANESE: Native Speaker
ENGLISH: Good Command
GERMAN: Basic Communication

PROGRAMMING SKILLS

Application development using C/Go
Kubernetes and Docker
Network operation (routers, L2/L3 switches, servers, etc.)

PUBLICATIONS

Journal Articles

1. Hiroki Watanabe, Takao Kondo, Kunitake Kaneko, Fumio Teraoka, **"Inserting Layer-5 to Provide Applications with Richer Functions through Common API,"** *IEICE Transactions on Communications*, Vol. E101-B, No.9.

Proceedings

1. K. Hayashi, H. Watanabe, T. Kondo, and F. Teraoka, **"LiON: A L3 Protocol Agnostic Experimental Network Construction Tool Based on Infrastructure as Code"**, *The Sixth IEEE International Conference on Software Defined Systems (SDS-2019)*, June. 2019.
2. H. Watanabe, T. Kondo, K. Kaneko and F. Teraoka, **"Separating Communication Policies and Mechanisms to Make Protocol Layering Clearer,"** *2017 26th International Conference on Computer Communication and Networks (ICCCN)*, Vancouver, BC, 2017, pp. 1–9. (Acceptance Rate: 27%)

Workshops

1. Hiroki Watanabe, Collaborator: Takao Kondo, Supervisor: Fumio Teraoka **"Application-Level Service Chaining for General In-Network Computation,"** *2019 13th EuroSys Doctoral Workshop (EuroDW)*, Dresden, Germany, 2019. Mar.

AWARDS

1. **"Student Incentive Award,"** IEICE-IA, March 2018.
2. **"Student Incentive Award,"** IEICE-IA, March 2016.

last update: Jun. 22 2020